

REMARKS

Claims 1, 6, 9-11, 13-15, 19 and 22-31 were examined by the Office, and in the final Office Action of August 19, 2009 all claims are rejected. With this response claims 1, 6, 9, 15, 23-24 and 28-31 are amended. All amendments are fully supported by the specification as originally filed. Support for the amendments can be found at least from page 9, lines 15-21. Applicant respectfully requests reconsideration and withdrawal of the rejections in view of the following discussion.

This response is submitted along with a Request for Continued Examination (RCE).

Claim Rejections Under § 103

In section 3, on page 2 of the Office Action, claims 1, 5-8, 10-11, 13-15, 19-20 and 22-31 are rejected under 35 U.S.C. § 103(a) as unpatentable over Wylie et al. (U.S. Patent No. 5,974,329) in view of MacDonald (U.S. Patent No. 5,732,354). Applicant respectfully submits that claim 1 is not disclosed or suggested by the cited references, alone or in combination, because the cited references fail to disclose or suggest all of the limitations recited in claim 1. Claim 1 is amended to clarify that two base stations are used to determine the location of the mobile station, each of the two base stations includes a plurality of antennas, and each antenna covers a different sector of the base station. Applicant respectfully submits that the cited references at least fail to disclose or suggest these limitations of claim 1.

Wylie is directed to the determination of a location of mobile station in an environment where some of the base stations are line-of-sight with respect to the mobile station and others are non-line-of-sight. It is alleged that a characteristic parameter of the line-of-sight conditions of the radio propagation environment of the base station is determined within Wylie – simply, in line-of-sight (LOS) or not in light-of-sight (NLOS).

MacDonald appears to be related to a method of determining the location of a mobile telephone using multiple antennas in cells. Signal strengths received by the antennas from the mobile telephone are provided to the mobile telephone. The mobile telephone uses these signal strengths in conjunction with path propagation slopes for each antenna to determine a location for the mobile telephone.

However, both Wylie and MacDonald relate to single antenna base stations and do not provide any suggestion of how they may be improved to operate with multiple antennas. In order to obtain an accurate determination of the mobile station's location, Wylie and

MacDonald require that the mobile station is able to communicate with three base stations. This is shown in Figure 3 of Wylie, and Figures 5-8 of MacDonald. In contrast to the cited references, the advantage provided by the invention recited in claim 1 of using base stations with multiple antennas is that the location of the mobile station can be determined using only two base stations. This is advantageous as it often may occur that the mobile station will not be able to receive/transmit signals to three base stations.

Therefore, the present invention relates to the determination of the location of a mobile station using two base stations. This determination is facilitated by the use of a plurality of antennas at each base station, and each antenna covers a sector of the base station. The cited references at least fail to disclose or suggest the use of sector antennas, or the use of only two base stations to obtain an accurate determination of the location of a mobile station. Accordingly, for at least these reasons, claim 1 is not disclosed or suggested by the cited references.

Independent claims 15 and 23-24 contain limitations similar to those recited in claim 1, and therefore are not disclosed or suggested by the cited references for at least the reasons discussed above with respect to claim 1.

The dependent claims rejected above, all ultimately depend from the above mentioned independent claims, and therefore are not disclosed or suggested by the cited references at least in view of their dependencies.

In section 4, on page 8 of the Office Action, claim 9 is rejected under 35 U.S.C. § 103(a) as unpatentable over Wylie in view of MacDonald and Hilsenrath et al. (U.S. Patent No. 6,026,304). Claim 9 ultimately depends from independent claim 1, and therefore it not disclosed or suggested at least in view of its dependency.

Conclusion

The objections and rejections of the Office Action of December 5, 2007, having been obviated by amendment or shown to be inapplicable, withdrawal thereof is requested and passage of the application to issue is earnestly solicited. The undersigned hereby authorizes the Commissioner to charge Deposit Account No. 23-0442 for any fee deficiency required to submit this response.

Respectfully submitted,

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